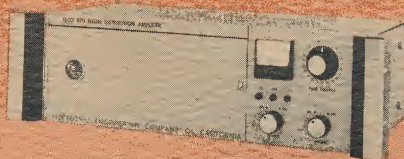




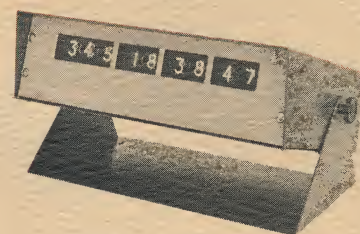
### TIME CODE GENERATORS

9 models .....see page 2



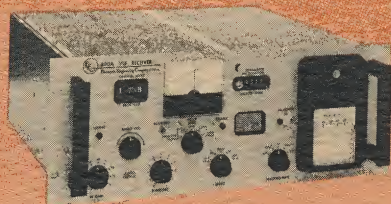
### TIMING SYSTEM AUXILIARY EQUIPMENT

drivers, scanners, displays .....page 2



### TIME DISPLAY UNITS

for remote time display .....page 2



### VLF RECEIVERS

for stabilizing local oscillators ....page 3



### DATA HANDLING EQUIPMENT

A-D converters, multiplexers,  
memories .....page 3

### DATA RECORDING



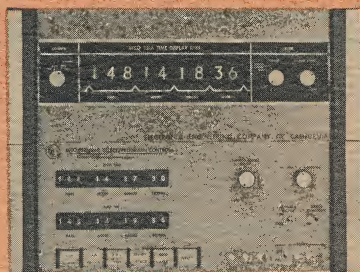
multiplexed analog inputs  
converted to computer format ....page 3

## PRODUCT SUMMARY 1965



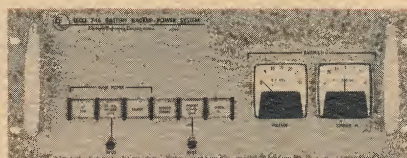
### FORMAT CONTROL BUFFER

... prepares blocked computer tape  
from asynchronous digital data....page 3



### SEARCH and CONTROL SYSTEMS

automatic location of data on  
magnetic tape .....page 3



### BATTERY BACK-UP POWER SYSTEM

uninterrupted ac power .....page 4



### PUNCHED TAPE BLOCK READERS

and Tape Spoolers.....page 4







## TIME CODE GENERATORS



EECO 807

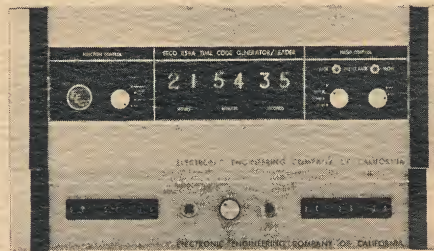


EECO 811



EECO 816

| CODE  | FRAME LENGTH                                | SCAN RATES                                      | CARRIER FREQUENCY  | PULSE RATES                     | MODEL NUMBER |
|---|---|---|--|---------------------------------|--------------|
| Hours, minutes, seconds, 24-bit BCD   | 1 sec                                       | 25, 50 or 100 pps                               | 1 kc   | 8 rates from 100 k pps to 1 pps | EECO 806     |
| AMR, B <sub>1</sub> , B <sub>2</sub> , C <sub>1</sub> , C <sub>2</sub> , D <sub>1</sub> , D <sub>2</sub> , hours, minutes, seconds, 17-bit binary | 20 sec<br>1 sec<br>1 sec                    | 1 pps<br>20 pps<br>100 pps                      | 1 kc   | 7 rates from 100 k pps to 1 pps | EECO 807     |
| Hours, minutes, seconds, 20-bit, BCD  | 1 sec                                       | 25 pps  | 250 cps  | None                            | EECO 808     |
| IRIG Formats A, B, C, D, E. Days, hours, minutes, seconds. 34-bit, 30-bit, 23-bit, 16-bit BCD   | 0.1 sec<br>1 sec<br>10 sec<br>1 min<br>1 hr | 1000 pps<br>100 pps<br>10 pps<br>2 pps<br>1 ppm | 10 kc<br>1 kc<br>1 kc or 100 cps<br>1 kc or 100 cps<br>1 kc or 100 cps | 1 mc, 10 pps, 1 pps             | EECO 811     |
| NASA Formats Days, hours, minutes, seconds, 36-bit, 28-bit, 20-bit, BCD   | 1 second<br>1 minute<br>1 hour              | 100 pps<br>2 pps<br>1 ppm                       | 1 kc<br>1 kc or 100 cps<br>100 cps                                     | 1 mc, 1 pps                     | EECO 812     |
| Hours, minutes, seconds 20-bit  | Parallel time code only                     | —   | (60 cycle frequency source)  | 6 rates from 100 pps to 1 ppm   | EECO 815     |
| Hours, minutes, seconds 20-bit  | 1 sec<br>10 sec                             | 25 pps<br>5 pps                                 | Carrier output optional  | 6 rates from 100 pps to 1 ppm   | EECO 816     |
| Hours, minutes, seconds 20-bit  | Parallel only                               | —   | (external 100 kc)  | 5 rates from 10 kc to 1 pps     | EECO 817     |

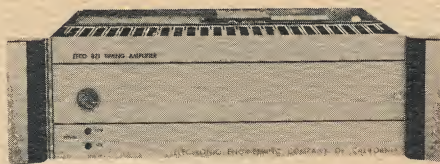


EECO 858A

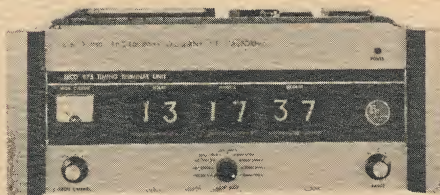
## TIME CODE GENERATOR/READER

Generates and displays 20-bit 24 hour time code. Reads and displays hours, minutes and seconds portion of IRIG B format. Simultaneous slow code output for graphic recorders.

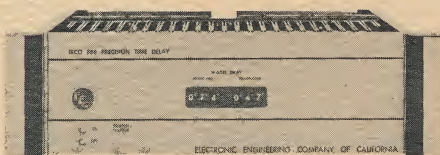
|   |   |                            |                |   |           |
|---|---|----------------------------|----------------|---|-----------|
| Combination TCG and Time Display. Modified IRIG B hours, minutes, seconds. 20-bit BCD | 1 sec<br>Slow code:<br>5 sec<br>or<br>1 min | 100 pps<br>10 pps<br>1 pps | 1 kc<br>—<br>— | 1000 pps,<br>100 pps,<br>10 pps,<br>1 pps | EECO 858A |
|---|---|----------------------------|----------------|---|-----------|



EECO 871



EECO 875



EECO 886

## TIMING SYSTEM AUXILIARY EQUIPMENT

| DESCRIPTION   | MODEL NUMBER                                 |
|---|--|
| <b>Relay Driver.</b> Seven separate inputs driving seven output relays. Pulse rates up to 100 pps.  | EECO 861                                     |
| <b>A-C Line Driver.</b> Twelve-channel AC amplifier for distribution of modulated time codes.   | EECO 863                                     |
| <b>D-C Line Driver.</b> Twelve-channel driver for level shift time codes or pulse rates.  | EECO 864                                     |
| <b>Count Down Clock.</b> Displays the time in hours, minutes and seconds before zero or "fire" time and after zero time. 5 digits and sign.                       | EECO 32575                                   |
| <b>Remote Time Display Units.</b> Wall or rack mounting units to display time. Input either parallel or serial time code.   | EECO 865<br>EECO 866<br>EECO 867<br>EECO 869 |
| <b>Neon Distributor Amplifier.</b> Amplifier for driving 24 camera neon lamps for displaying serial time code on motion picture film. Readily drives NE-2J neons. | EECO 870                                     |
| <b>Terminal Timing Unit.</b> Modifies basic timing codes into variety of special codes, pulse rates and amplified outputs for use by various instrumentation.     | EECO 875                                     |
| <b>Universal Timing Amplifier.</b> Multiple amplifier for all time codes and pulse rates.   | EECO 871                                     |
| <b>Slow Code Scanner.</b> Generates slow code rates by scanning EECO 875 or Time Code Generator.  | EECO 876                                     |
| <b>Precision Time Delay.</b> Delays 1 pps sync pulses in 1 microsecond steps.   | EECO 886<br>EECO 887                         |

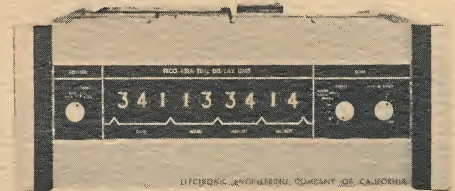


## TIME DISPLAY UNITS

for displaying time recorded on magnetic tape

These units read and display time from magnetic tape units operating at high or low speed in either forward or reverse direction. Used for data searching with manual control of the tape unit.

| DESCRIPTION  | MODEL NUMBER |
|--|--------------|
| Displays IRIG, NASA and other BCD time codes. AMR decoder available.             | EECO 851     |
| Same as EECO 851 except displays "on time" and reads through dropouts.           | EECO 851A    |
| Displays IRIG, NASA, AMR, PMR and other time codes using plug-in decode modules. | EECO 855     |



EECO 851A

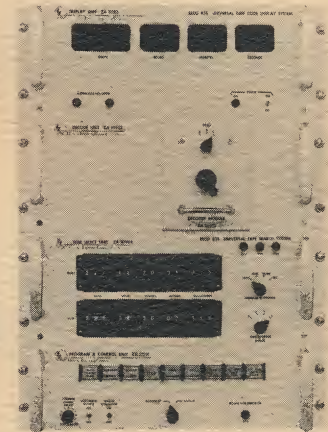
## SEARCH AND CONTROL SYSTEMS

for Magnetic Tape Recorders

Search and Control Systems automatically control analog tape recorders to search at high speed in either direction for selected portions of data on magnetic tape. The data on the tape is identified by a time code. This time code is displayed during search and playback.

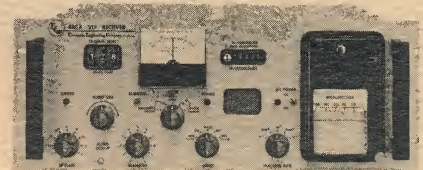
| DESCRIPTION  | MODEL NUMBER          |
|--|-----------------------|
| Automatic search system. Reads IRIG Formats A, B and C, NASA 36 and 28-bit and other BCD time codes. Selection of time code formats by front panel switch and simple patch connector change. Decoder unit for AMR D-5 is among standard options. | EECO 851A<br>EECO 852 |
| Automatic Universal search system. Reads IRIG, NASA, AMR, PMR, and other time codes. Selection of time codes by plug-in decode modules.  | EECO 835              |
| Combination time code generator and automatic search and control. Generates and reads 20-bit, 24 hour time code, modified IRIG B Format. Simultaneous slow code for graphic recorders.   | EECO 858A<br>EECO 859 |

EECO 835



## VLF RECEIVERS

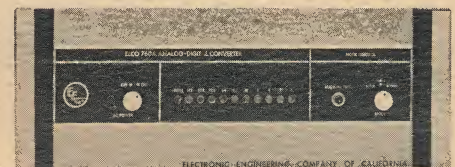
| DESCRIPTION   | MODEL NUMBER |
|---|--------------|
| Compares and corrects output frequency of local oscillator with reference to VLF carrier. Plots frequency deviation. Tunes from 10 kc to 30 kc. Electronic servo. Variable tracking rate. 60 kc channel option. | EECO 880A    |
| Military version of EECO 880.   | EECO 880 MIL |



EECO 880A

## DATA HANDLING EQUIPMENT

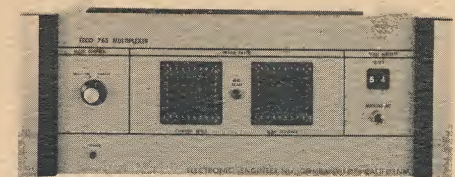
| DESCRIPTION   | MODEL NUMBER          |
|---|-----------------------|
| Format Control Buffer. 36-bit digital or analog inputs converted to IBM computer tape.  | EECO 751-1            |
| Format Control Buffer. Same as 751-1 but uses IBM 729 tape unit.  | EECO 751-2            |
| Format Control Buffer. 12-bit digital or analog inputs converted to IBM computer tape.  | EECO 751-3            |
| Format Control Buffer. 6-bit digital or analog inputs converted to IBM computer tape. Sequential memory.  | EECO 751-4            |
| Magnetic Tape Adapter. Reads or writes GE ERMA and GE magnetic tapes from IBM 1401 Computer.  | EECO 754              |
| Data Recording System. Multiplexes analog inputs to IBM computer tape. Incremental tape unit.   | EECO 755              |
| Analog-to-Digital Converters. Up to 14 bits binary or 3 decimal digits and sign — 44 kc to 25 kc sample rate. Up to 11 bits binary or 3 decimal digits and sign — 15 kc to 25 kc sample rate. | EECO 760A<br>EECO 761 |
| Analog Multiplexer. 10 to 100 inputs. 50 millivolt to 5 volts. 100 megohm input impedance.  | EECO 765              |
| Shaft Angle Translator. Converts output from optical shaft angle encoder to degrees of angle. Both visual display and BCD outputs available.  | EECO 780              |
| Random Access Memory. 200 kc ferrite core memory for data processing systems. Eight level — 128 to 4096 characters.   | EECO 781              |
| Sequential Access Memory. Same as EECO 781, but with the addition of an address counter.  | EECO 782              |
| Sequential Interface Memory. Same as EECO 781, but with the addition of two address counters for simultaneous loading and unloading.  | EECO 783              |



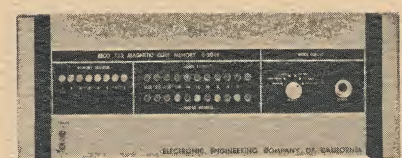
EECO 760A



EECO 761



EECO 765



EECO 783



## BATTERY BACK-UP POWER SYSTEM

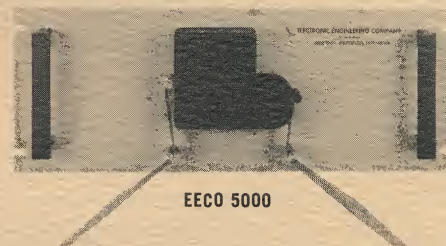
| DESCRIPTION   | MODEL NUMBER |
|---|--------------|
| Provides 300 va of continuous ac sine wave power regardless of ac power interruption. Uses 24 volt battery. | EECO 746     |



EECO 746

## PUNCHED TAPE BLOCK READERS

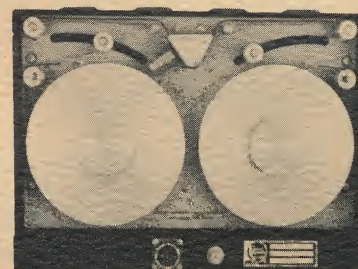
| DESCRIPTION  | MODEL NUMBER |
|--|--------------|
| Up to 160 bits per frame. Mechanical contacts. Bidirectional. Up to 10 frames/sec. 250 ma contacts.                                    | EECO 4000    |
| Up to 160 bits per frame. Photoelectric readout. Up to 12 frames/sec. Silicon switching transistor output — up to 100 ma for each bit. | EECO 5000    |
| Higher speed — up to 20 frames/sec. Photoelectric. Up to 160 bits per frame.   | EECO 2500    |



EECO 5000

## RUGGEDIZED MILITARY PUNCHED TAPE READERS

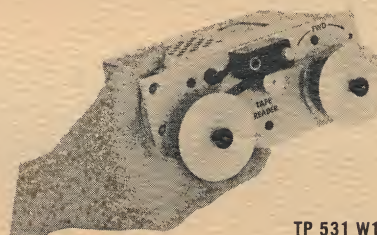
| DESCRIPTION   | MODEL NUMBER            |
|---|-------------------------|
| Photoelectric block reader — up to 160 bits/frame — up to 12 frames/sec. —40°C to +55°C.          | EECO 2300 and EECO 2400 |
| Photoelectric single line reader. 130 characters/sec. —40°C to +85°C — 10 g vibration to 500 cps. | EECO 3002               |



EECO 3002

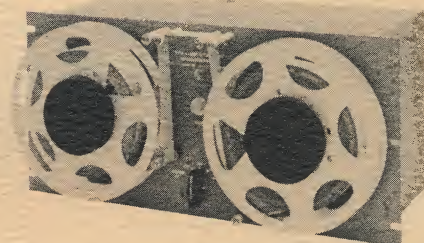
## SINGLE LINE PUNCHED TAPE READERS

| DESCRIPTION   | MODEL NUMBER |
|---|--------------|
| Single-line reader for mobile application. 15 characters/sec — 3 3/8" x 7 3/4" x 6 1/2". 7 1/2 lbs. | TP 531 W1    |
| Single-line, slow speed reader. 30 characters/sec. Bidirectional.                                   | TP 551       |



TP 531 W1

|  |                      |
|--|----------------------|
| <b>Paper Tape Spooler.</b> Bi-Directional — 8" reels — up to 15 ips — 1000 foot tape capacity.                             | TS-400               |
| <b>Relay Tester.</b> For rapid test of pull-in and drop-out voltage and current, contact resistance, coil resistance, etc. | RT 905               |
| <b>Test Sockets.</b> Dual contact test sockets for all standard relays using solder type terminals.                        | Ask for Catalog AS-3 |



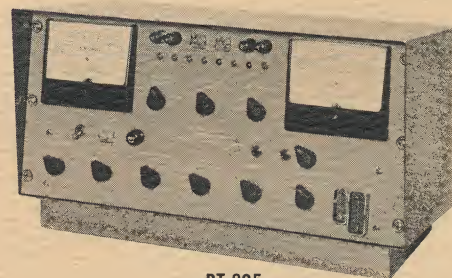
TS-400

## SPECIAL SYSTEMS

EECO also designs and builds special data processing systems and timing systems. Over 15 years experience with R&D projects.

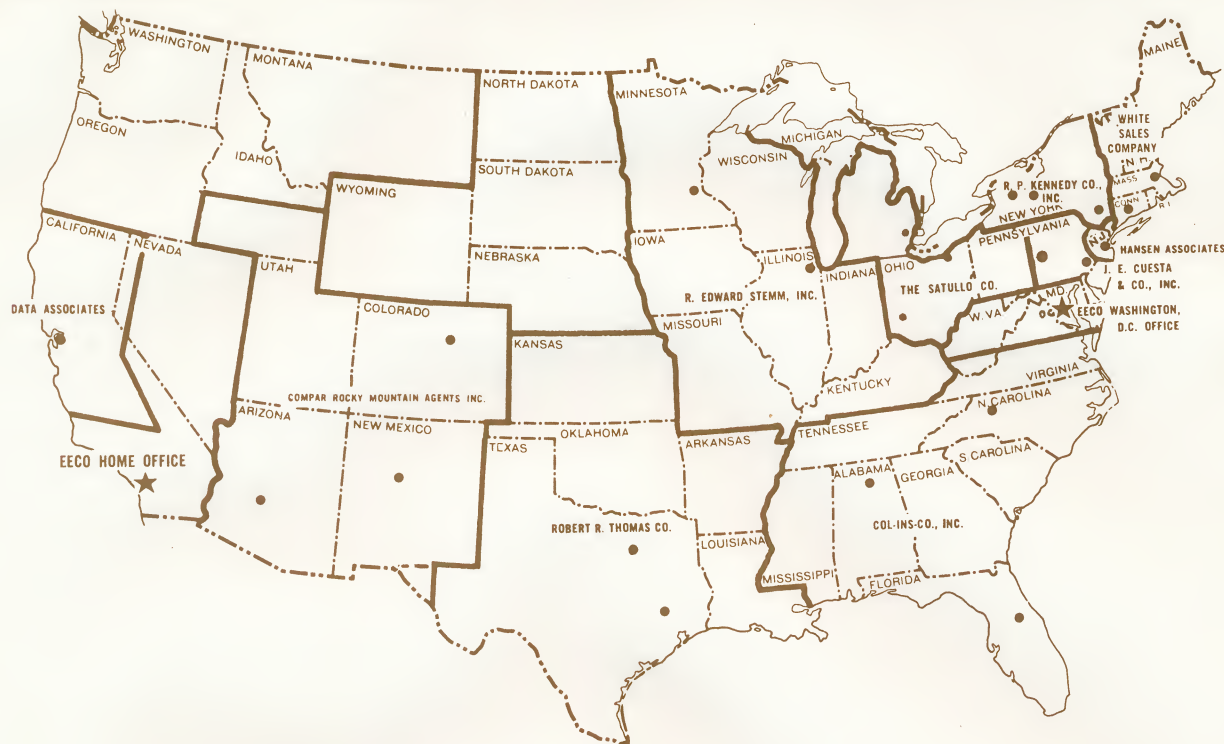
## ENGINEERED ELECTRONICS COMPANY

EECO's digital circuit modules, power supplies and thumbwheel decimal-to-BCD EECOSWITCHES are manufactured and sold by the Engineered Electronics Company Division.



RT 905





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Phone: (415) 961-3030  
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(Area Code 714)

T NELSON  
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BOX 1446  
POUGHKEEPSIE NY

CD(NP) -3

(FOLD LINE)

Dear Sir:

Thank you for your request for information. Your interest in EECO products and systems is sincerely appreciated. The literature you requested is enclosed. We hope that it will help you in your work.

To acknowledge receipt of the requested information, and to allow us to supply you with further technical information, would you kindly fill out the form below, fold, staple, and return to us. Thank you.

Enclosures:

EECO 875  
TIMING TERMINAL UNIT

Very truly yours,

*W. M. Hawkins*  
W. M. HAWKINS  
Sales Manager

4/24

(FOLD LINE)

1 ☐ Yes, I received the information I requested.

2 My initial interest in your product is for:

- ☐ Present application      ☐ Specific future application  
☐ Catalog information only      ☐ Possible future application

3 I would appreciate further contact:

- ☐ Now      ☐ In 30 days  
☐ In 3 months      ☐ No further contact necessary

4 ☐ Keep me informed of future developments, and place my name on your mailing list.

5 My address is:      ☐ correct      ☐ incorrect  
If incorrect, please indicate above.

6 I would like information on other EECO products:

- ☐ Time Code Generators      ☐ Auxiliary Timing Equipment  
☐ VLF Receiver  
☐ In-Line Time Displays  
☐ Time-Coded Search and Control Systems for Magnetic Tape  
☐ Data Handling Systems  
☐ Analog Multiplexers  
☐ Analog/Digital Converter  
☐ Digital Data Translators and Converters  
☐ Radar Data Converters  
☐ Magnetic Core Memories  
☐ Punched Tape Block Readers  
☐ Photo-Electric Block Readers  
☐ Tape Spoolers  
☐ Relay Testers  
☐ Relay Adapter Sockets  
☐ Other (Specify) \_\_\_\_\_





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